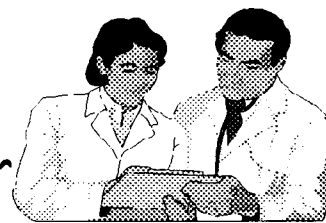




LabLink



LABORATORY INFORMATION FROM THE MICHIGAN DEPARTMENT OF PUBLIC HEALTH

Vol. I, No. 1

June 1995

FROM THE DIRECTOR

Robert Martin, MPH, Dr.P.H.

We are pleased to provide you a new communication from the Bureau of Infectious Disease Control. The information included in this communication will describe the services of the Michigan Department of Public Health Laboratories and will keep you apprised of new and emerging issues that affect us all. This laboratory communication will be a periodic (quarterly) publication of the Laboratory Services Division.

As changes occur in our health care system, all components of that system, including clinical and public health laboratories, will have to continually evaluate their respective roles. The Michigan Department of Public Health Laboratory has continued to evolve since its establishment in 1917. The first services provided were services now considered in the realm of the hospital and independent laboratories (e.g., clinical chemistries, hematology, etc.). The services provided by our laboratory have evolved from these basic laboratory services to reference services (e.g., mycology, mycobacteriology, parasitology, identification of unusual isolates) and services that support federal, state, and local health programs (e.g., molecular epidemiology).

As the services changed, so have the methods. The mycobacteriology laboratory utilizes Bactec for rapid detection of growth and DNA probes and high performance liquid chromatography (HPLC) for rapid identification of isolates. Our support to epidemiologists includes utilization of methods such as polymerase chain reaction methods (PCR) for Norwalk virus, HIV, and (under study) rabies virus. Other epidemiologic methods include pulsed-gel electrophoresis (PFGE) and restriction fragment length polymorphism (RFLP) analysis. Many of you are familiar with our services. However, as indicated above, the

services provided by Michigan's public health laboratory will continue to evolve as need dictates.

The Michigan laboratory is part of the national public health laboratory network comprised of 53 state and territorial public health laboratories. We belong to the Association of State and Territorial Public Health Laboratory Directors, who, along with the Centers for Disease Control and other national organizations, develops protocol for laboratory testing. This year, national conferences have been held on Retrovirology (Reno, NV), Laboratory Aspects of Tuberculosis (Atlanta, GA), Lead Testing (Atlanta, GA), Serologic Testing for Lyme Disease (Dearborn, MI), and on Newborn Screening Issues (Seattle, WA). State public health laboratories work closely with the Centers for Disease Control and Prevention to address a variety of public health concerns.

Since states are autonomous units, the public health laboratories vary from state to state with respect to the services they provide. However, there are certain basic services provided by all states and some unique services provided by the Michigan Department of Health Laboratories. For example, our laboratory serves as one of six laboratories throughout the country that performs restriction fragment length polymorphism (RFLP) analysis on isolates of *Mycobacterium tuberculosis*. We serve 13 states in the Midwest and we are participating in a number of studies in Minnesota, Ohio, and Illinois. These six laboratories are funded through cooperative agreements with the Centers for Disease Control.

In this first communication, I thought it would be useful to briefly describe our scope of services. I will include the name and phone number of each Section Chief.

Laboratory Services Division -

Robert Martin, Dr.P.H., Laboratory Director

Sharon Marsh, Secretary (517) 335-8067

I. Clinical Chemistry -

Jacqueline Scott, D.V.M., Ph.D. (517) 335-9489

A. Newborn Screening

Tests all newborns in the state for seven (7) genetic and/or metabolic disorders that may cause death or mental retardation.

1. Hypothyroidism
2. Phenylketonuria (PKU)
3. Maple Syrup Urine Disease (MSUD)
4. Sick Cell Disease
5. Biotinidase Deficiency
6. Galactosemia
7. Congenital Adrenal Hyperplasia (CAH)

- B. Blood Lead Testing** - Test preschool children for high blood lead levels that arise due to ingestion (eating old paint, drinking water with high lead content, exposure to soil with high lead content).

II. Water Chemistry & Microbiology

Theodore Williams, Ph.D. (517)335-8184

- A. Microbiology** - Test drinking water for coliform bacteria and *Escherichia coli* using a one step assay.

- B. Chemistry** - Test drinking water for chemicals that have been determined by the Environmental Protection Agency (EPA) to be harmful to health. The chemistry laboratory is divided into various areas on the basis of the compound and elements being examined; metals, synthetic organic chemicals, volatile organic chemicals and other organics).

III. Microbiology Laboratory

Barbara Robinson-Dunn, Ph.D., ABMM
(517)335-9641

- A. Parasitology** - clinical and reference service

- B. Mycology** - reference service

- C. Mycobacteriology** - clinical specimens and reference service

- D. Sexually Transmitted Disease** - clinical specimens and reference service

- E. Foodborne Illnesses** - clinical specimens and foods

- F. Identification of unusual bacteria** - clinical isolates

- G. Enteric serotyping** - clinical isolates

IV. Virology Laboratory

Louis Guskey, Ph.D. (517) 335-8099

- A. HIV laboratory**

- B. Viral Isolation**

- C. Viral serology**

- D. Bacterial and Parasitic Serology**

- E. Rabies Laboratory** - examine animal brains for the presence of the rabies virus.

V. Molecular Biology Laboratory

Jeffrey Massey, Dr.P.H. (517) 335-9473

- A. Polymerase Chain Reaction** in diagnostic applications

- B. Various molecular methods** (plasmid analysis, RFLP analysis, PFGE, etc.) to provide laboratory support for epidemiologic investigations.

VI. Regional Laboratories

- A.** Upper Peninsula - William Sottile, Ph.D., ABMM (906) 482-3011

- B.** Saginaw County - Robert Jones, R.S. (517) 758-3825

- C.** Kent County - Ken Terpstra, M.S., MT(ASCP) (616) 336-3475

- D.** Kalamazoo County - Cindy Overcamp, MT(ASCP) (616) 626-8030

- E.** Detroit City Laboratory - J. Goodwin, Ph.D. (313) 876-4222

- F.** Lansing Regional Laboratory - Barbara Robinson-Dunn, Ph.D., ABMM (517) 335-9641

If you have any questions about the services provided, please do not hesitate to call the Section Chief of that area, or call my office.

I hope you find this report on public health laboratory activities useful. In future issues, we would like to highlight the work of some of our staff. We would also like to use this as a forum for you. We will establish a contributor's column in which your comments and concerns can be discussed.

HANTAVIRUS

Patty Clark, Microbiologist

Hantavirus Pulmonary Syndrome (HPS) is a new disease first recognized among residents of the southwestern United States. Each hantavirus appears to have a preferential rodent as the primary reservoir host. The deer mouse (*Peromyscus maniculatus*) is the primary reservoir in most of the United States. This mouse is highly adaptable and is found in many habitats, including human residences in rural and semi-rural areas. Infected rodents shed virus in saliva, urine, and feces. Human infection may occur when infective saliva or excreta are inhaled as aerosols or when dried materials contaminated by rodent excreta are disturbed, directly introduced into broken skin or conjunctivae, or ingested in contaminated food or water. Infection has also occurred through rodent bites.

Recently an MDPH staff member attended a hantavirus training workshop at CDC. As a result of this workshop, the Michigan Department of Public Health is in the planning stage of initiating an ELISA test for detection of IgG and IgM antibodies to hantavirus.

CONFERENCE NEWS . . .

The Second National Conference on Laboratory Aspects of Tuberculosis sponsored by the Association of State and Territorial Public Health Laboratory Directors (ASTPHLD) and the Centers for Disease Control and Prevention was held in Atlanta, Georgia on April 27-30, 1995. The Conference provided a forum for the exchange of information on those issues relating to the continued improvement of tuberculosis testing. Dr. Robert Martin, Laboratory Director, MDPH and President-Elect of ASTPHLD, Dr. Barbara Robinson-Dunn, Chief of the Microbiology Section and Dale Berry, Lead Worker of the Mycobacteriology/Mycology Unit attended this meeting.

Conference attendees received updates on the national tuberculosis picture, the funding situation, extent of testing for mycobacteriology in laboratories nationwide, new technologies and how managed care will affect laboratory services for tuberculosis. Workgroups were available on different topics to provide recommendations for tuberculosis testing in the future. One of the "hot topics" concerned the levels of service for mycobacteriology testing. These were first promulgated by the American Thoracic Society in 1982 and included three levels of service. Two levels of service were recommended at this conference. Further information on this change will be sent to laboratory directors/microbiology supervisors in the next several weeks.

Quality Assurance

Karen MacMaster

The Quality Assurance Specimen Acquisition (QASA) Section at the Michigan Department of Public Health, Laboratory Services Division is committed to the evolution of the Quality Improvement Process (QIP). The changes we are currently undergoing are the result of the expressed needs of our customers.

As some of you are aware our Data and Specimen Handling Unit (DASH) has begun the implementation of a new reporting system from the Microbiology Section. This system known as Cohort, Epic's Information Management System, will enable us to expedite laboratory results to our clients. It will not only improve turnaround time but provide a more rapid verbal report when you communicate with us. Cohort will allow us to evaluate trends as well as provide us with the abilities to track the shipment and return

of our specimen containers . . . a savings to the citizens of Michigan!

We would like to extend our gratitude to all of you who assisted us in designing the Microbiology Test Requisition (FB100) to be used with our new Cohort system. It is important to us that these requisitions be "user friendly" to serve your needs. We are pleased to announce that our Virology Section is scheduled to go online with Cohort next spring and once again we may be asking for your assistance in the design of a test requisition.

The QASA Section has actively been involved in revising the forms for Ordering Specimen Containers (F389) and the directions for the collection of clinical specimens. The new forms will be phased in as we use up existing supplies. Please take the time to review these updated forms as you receive them, there have been changes made! Failure to follow the proper instructions could add to delays in receiving the proper

See QA, p. 4

Advise to the LabLorn...

The training office in the Division of Laboratory Services has on file the CDC Videotape, "E. coli O157:H7, What the Clinical Microbiologist Should Know". Two copies are now being circulated to laboratories interested in viewing the video. If your lab is interested, please call Susan Shiflett at (517) 335-9763 to get on the waiting list.

Patricia Somsel, DPH, of Regional Medical Laboratories, Inc., in Battle Creek, has mentioned that the microbiology section has noticed an increase in the number of *Corynebacterium urealyticum* isolates found in catheterized patients. Are any other microbiology laboratories noticing this same trend?

Maybe this gives you an idea of the purpose of this column. It is for you, the laboratorians. This space is dedicated for questions and answers, for concerns your laboratory is having, for reporting any trends your lab would like to bring to the attention of other laboratorians, and for other networking needs. We will pass along any worthy notes from MDPH, as well as any concerns that you might send to us.

Send any questions, comments, or concerns to me via the mail to: Susan Shiflett - Microbiology, Michigan Department of Public Health, 3500 North Martin Luther King Jr. Blvd., P.O. Box 30035, Lansing, Michigan, 48909. I can also be reached by phone at (517) 335-9763. You can also find me on the Internet. My mail box is ShiflettS@SMTP.MDPH.STATE.MI.US. We hope to hear from you as we try to link the labs of Michigan..

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collection units and/or the reporting of test results.

We are in the process of revising our "Laboratory Manual" for specimen submissions. Tests are being added as well as deleted, and the format is being revised in order to facilitate the retrieval of information. We think you will appreciate these changes and will keep you updated on our progress. As the Quality Assurance Section proceeds in implementing this system of continuous quality improvement, we encourage you to provide us with the necessary feedback so we may better serve you in the future.

Notes from the Virology Section

Dr. Louis Guskey

Serological tests performed in the Virology Section include detection of antibodies to HIV, Hepatitis B virus, syphilis and other disease causing microbes. Because these tests are done in different Units we ask that separate requisition forms (test requests) i.e., FB49(HIV), FB21 (Hepatitis B virus) and FB8 (syphilis) are used and that, skirted cap tubes are submitted for each (test requested) requisition form. Failure to comply may result in unnecessary processing delays.

LabLink is published quarterly by the Michigan Department of Public Health to provide laboratory information to Michigan Health professionals and to the public health community.

Director, Laboratory Services Division
Robert Martin, MPH, Dr.P.H.

Editor
Susan Shiflett

Design and Layout
Kimberly Binney

Michigan Department of Public Health
Laboratory Services Division
PO Box 30035
Lansing, MI 48909-7535

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